

# CLOGGED CHAMBER

## SYMPTOMS:

- Intensifier/Air motor pump will not cycle.
- Intensifier/Air motor pump cycles are slow.
- Process pressure gauge shows peak pressure only.
- Little or no flow at product outlet.

**SOLUTIONS:** There are three methods used to clear blockage within the Interaction Chamber (IXC) or Auxiliary Process Module (APM).

- Back flushing
- Sonicating
- Autoclaving

Please refer to the procedures listed below for clearing a clogged chamber.

1. Open priming valve to confirm that Intensifier/Air motor pump will cycle under a no load status. Close valve after confirming.
2. **BACK-FLUSHING:** Insure that the pressure has been depleted within the process piping before removing chambers. Remove both chambers. Reinstall with directional arrows facing in the opposite direction.

Pass distilled water through the chambers at 10-15k psi. For HC units, 2-8k psi. If the blockage has cleared, continue to back-flush for at least 1-2 minutes. Insure that the pressure has been depleted within the process piping before removing chambers. Return chambers to their normal configuration and measure the throughput at 2-8k psi for HC units, 10k psi for all other units. Compare results with data in the manual.

If blockage has not cleared, repeat this step by back-flushing each chamber separately.

3. **SONICATING:** Place the interaction chamber upright into a sonicating bath filled with alcohol or a suitable solution. Sonicate chamber for 30 minutes with the directional arrow-facing upright. After 30 minutes, rotate chamber so that the directional arrow is facing down. Continue to sonicate for another 30 minutes.
4. **AUTOCLAVING:** Place interaction chamber into an oven. Set temperature to 121°C. Remove after 30 minutes and measure chamber throughput at 10k psi. This procedure is not recommended for products such as paint or carbon black.
5. Call Microfluidics for further assistance 1-800-370-5452.